



Commonwealth of Virginia  
Department of Transportation  
CONTRACT PRINT

Run Date: 09/08/2006  
Run Time: 12:52 PM

Page No. 1 of 3

Contract Description: SNOWPLOWS - POWER REVERSING

Contract ID	:	000000000000022308	Contract Begin Date	:	09/23/2004
Effective Date	:	09/08/2006	Contract End Date	:	09/22/2007
Max Amount Per Contract	:	\$ .00	Buyer	:	Caroline Hudgins
			Buyer Phone Nbr	:	804/786-2725

Vendor Name	:	VALK MANUFACTURING COMPANY	Vendor ID	:	0000003083
Address1	:	P O BOX 428	Phone	:	717/766-0711
Address2	:		Fax	:	717/697-6297
Address3	:		Vendor Contact	:	ROBERT P. LANG
Address4	:		Vendor Contact Phone	:	7177660711
City	:	NEW KINGSTOWN			
State	:	PA Zip Code : 17072-0428			

Comments :

## Contract Description: SNOWPLOWS - POWER REVERSING

Contract ID	: 000000000000022308	Contract Begin Date	: 09/23/2004
Effective Date	: 09/08/2006	Contract End Date	: 09/22/2007

THIS CONTRACT IS A RESULT OF RFQ 91936.

TWO ONE-YEAR RENEWALS EXIST - 05-06 AND 06-07

## PRICE INCREASE

Price adjustments may be permitted for changes in the Contractor's cost of materials not to exceed the increase in the following index/indices: Producer Price Index, Table 6, Commodity Iron and Steel - 10 - 101. No price increases will be authorized for 180 calendar days after the effective date of the contract. Price escalation may be permitted only at the end of this period and each 180 days thereafter and only where verified to the satisfaction of the purchasing office. However, "across the board" price decreases are subject to implementation at any time and shall be immediately conveyed to VDOT. Contractor shall give not less than 30 days advance notice of any price increase to the purchasing office. Any approved price changes will be effective only at the beginning of the calendar month following the end of the full 30-day notification period. The Contractor shall document the amount and proposed effective date of any general change in the price of materials. Documentation shall be supplied with the Contractor's request for increase which will: (1) verify that the requested price increase is general in scope and not applicable just to the Virginia Department of Transportation; and (2) verify the amount or percentage of increase which is being passed on to the Contractor by the Contractor's suppliers.

The Purchasing Office will notify the using agencies and Contractor in writing of the effective date of any increase, which it approves. However, the Contractor shall fill all purchase orders received prior to the effective date of the price adjustment at the old contract prices. The Contractor is further advised that decreases, which affect the cost of materials, are required to be communicated immediately to the purchasing office.

## LIQUIDATED DAMAGES:

Delivery of requested units is required not later than 120 days from the date of the purchase order. It is understood and agreed by the bidder that time is of the essence in the delivery of material of the quantity and quality specified in the bid document. In the event these snowplows are not delivered in the quantities specified there will be deducted, not as a penalty but as liquidated damages, the amount of 1/2% per day for each and every business day for each unit not delivered as specified; except that if the delivery is delayed by any act, negligence, or default on the part of the Commonwealth, public enemy, war, embargo, fire, or explosion not caused by the negligence or intentional act of the contractor or his supplier(s), or by riot, sabotage, or labor trouble that results from a cause or causes entirely beyond the control or fault of the contractor or his supplier(s), a reasonable extension of time as the procuring public body deems appropriate may be granted. Upon receipt of a written request and justification for any extension from the contractor, the purchasing office may extend the time for performance of the contract or delivery of goods herein specified, at the purchasing office's sole discretion, for good cause shown.

## ADDITIONAL USERS:

This procurement is being conducted on behalf of state agencies, institutions and other public bodies who may be added or deleted at anytime during the period of the contract. The addition or deletion of authorized users not specifically named in the solicitation shall be made only by written contract modification issued by this agency or institution and upon mutual agreement of the contractor. Such modification shall name the specific agency added or deleted and the effective date. The contractor shall not honor an order citing the resulting contract unless the ordering entity has been added by written contract modification.

CONTRACT RENEWED FOR FIRST PERIOD 05/06 - SEPT. 14, 2005

CONTRACT RENEWED FOR SECOND AND LAST RENEWAL PERIOD - 06/07 - SEPT. 8, 2006

Line Nbr	Item Code	Make,Model	Item/ Category Description	UOM	Unit Price	Max Qty	Min Qty
1	7656142150	VALK RV101-116	10 FT., POWER REVERSING SNOW PLOW, VEHICLE MOUNTED, PER VIRGINIA DOT SPECS	EA	3,129.0000	0.00	0.00
Comments :							
10' SNOWPLOWS - 30" TALL - POWER REVERSING							
2	7656142180	VALD RV111-116	11 FT., POWER REVERSING SNOW PLOW, VEHICLE MOUNTED, PER VIRGINIA DOT SPECS	EA	3,203.0000	0.00	0.00
Comments :							
11' SNOWPLOWS - 30" TALL - POWER REVERSING							
3	7656142165	VALK RV112-116	11 FT., 36 IN. HEIGHT, POWER REVERSING, SNOWPLOW SNOW PLOW, VEHICLE MOUNTED, PER VIRGINIA DOT SPECS	EA	3,247.0000	0.00	0.00
Comments :							
11' SNOWPLOWS - 36" TALL - POWER REVERSING							
4	7656142167	VALK RV113-116	11 FT., 42 IN. HEIGHT, POWER REVERSING, SNOWPLOW SNOW PLOW, VEHICLE MOUNTED, PER VIRGINIA DOT SPECS	EA	3,291.0000	0.00	0.00
Comments :							
11' SNOWPLOWS - 42" TALL - POWER REVERSING							
5	7656142250	VALK RV122-116	12 FT., POWER REVERSING SNOW PLOW, VEHICLE MOUNTED, PER VIRGINIA DOT SPECS	EA	3,321.0000	0.00	0.00
Comments :							
12' SNOWPLOWS - 36" TALL - POWER REVERSING							
6	7656142237	VALK RV123-116	12 FT., 42 IN. HEIGHT, POWER REVERSING, SNOWPLOW SNOW PLOW, VEHICLE MOUNTED, PER VIRGINIA DOT SPECS	EA	3,365.0000	0.00	0.00
Comments :							
12' SNOWPLOWS - 42" TALL - POWER REVERSING							
7	7656142804	JRB COUPLER	SNOWPLOW, JRB COUPLER OPTIONS SNOW PLOW, VEHICLE MOUNTED, PER VIRGINIA DOT SPECS	EA	977.0000	0.00	0.00
Comments :							
SUPPLY PLOW FRAME EQUIPPED WITH THE MATING HALF OF A JRB QUICK COUPLER SYSTEM AS MANUFACTURED BY JRB COMPANY, INC., AKRON, OHIO.							

End of Report



## VIRGINIA DEPARTMENT OF TRANSPORTATION

### SPECIFICATIONS

#### 10' Snowplow - 30" Tall - Power Reversing

**General:** Snowplow for 30,000 lb. GVW truck to be two-way power reversing type, 10' in length, 30" in height with variation not to exceed 2" and weigh not less than 1,700 lbs.

The plow is to be constructed for high speed operations, reversible from 42 degrees right to 42 degrees left. Plow to have sufficient vertical play on ends of plow to fit shape of pavement.

**Optional Item:** These specifications contain an option for purchase at the time units are ordered. Bidder shall quote the additional cost for the option as applicable to the base specification of the snowplow. A price is required for the option. Bidder must provide the same make and model snowplow as bid in the base specification except for changes necessary to comply with the option.

**Moldboard:** Moldboard to have cutting edge not less than 10' in length with standard punching. Moldboard overall height including blade to be approximately 30" with variation not to exceed 2". To be constructed of not less than 10 gauge steel. Moldboard to have not less than six vertical ribs across midsection, each 1/2" x 3" minimum, or equal. Moldboard ends are to be reinforced with similar ribs or flanges. Horizontal ribs are also to be included according to manufacturer's standard for plow size and type. Bottom member used as blade support to be 3" x 4" x 5/8" angle, minimum, or equal, with necessary gussets to support and reinforce moldboard and cutting edge.

The upper portion of the moldboard is to project over the cutting edge to form a continuous solid integral snow shield with upper reinforcement not less than 2-1/2" x 2-1/2" x 3/8" or 3" x 2" x 3/8" angle.

**Blade:** Plow to be equipped with sectional carbide tipped blades conforming to the attached specifications. Carbide blades are to be mounted to moldboard behind a one piece regular blade; thereby, providing double thickness blades. Blades to be punched with standard punching.

**Automatic Moldboard Release:** The moldboard is to release on shock and automatically spring back in place by use of enclosed springs. Springs to be adjustable in order to be able to regulate the trip.

Trip cylinder attachment to moldboard is to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Plow Frame:** Plow frame to be heavy duty with side members of frame not less than 1/2" x 3" x 3" angle, box frame or channel of equal strength. Frame to be adequately braced. Shackles for attachment to push frame to have center to center measurement of 21" with 1-5/16"

10' Snowplow - 30" Tall - Power Reversing

diameter holes for pins. Hole/pin position to be not less than 36" from plow frame pivot point. Radius angle to be fabricated of not less than 3" x 3" x 1/2" angle, attached to at least three points to a front angle of not less than 3" x 4" x 1/2" or 3-1/2" x 3-1/2" x 1/2" angle. Minimum hinge point centers to be 115". The hinge pins are to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Power Reversing:** The hydraulic power reversing system may be either by cylinders or hydraulic motor.

If by cylinders, system is to consist of two - 2-1/2" single-acting cylinders. Stroke is to be adequate for 42 degrees right to 42 degrees left positions. A latching system latched mechanically and released by cylinder activation is to be included. Cylinders, brackets, etc., are to be furnished and installed complete for hydraulic connection by State.

If hydraulic motor furnished, plow reversing to be by worm gear. Plow angles shall lock automatically at any angle.

Hoses to power reversing cylinders or motor are to extend beyond shackle attachment point at least 30". Hoses to terminate with 1/2" N.P.T. male pipe thread.

**Lift Chain:** The lift chain to be of adequate length, not less than 3/8" size. Chain to be attached to plow at each end with a chain shackle. Chain shackle is to be either loose pin type with cotter pin or bolt pin type with cotter pin securing the nut. Screw pin type is not acceptable. Cold shuts will not be acceptable. Chain to include spring links for shock absorbing.

**Moldboard Deflector:** A piece of 9/32" thick x 12" wide x moldboard length, two-ply, rubberized, smooth face conveyor belting is to be furnished as a moldboard deflector. The top edge of the moldboard is to be drilled with 1/4" holes at each end and on 12" centers the full length for attachment. Corrosion resistant 1/4" bolts and large O.D. (fender) washers are to fasten belting to moldboard. **NOTE: Belting and bolts may be shipped separate for installation by VDOT personnel; however, bolts must be individually packaged in quantities correct for each snowplow, and both bolts and belt are to be marked for the snowplow size.**

**Jack:** Plow is to have a screw type storage jack mounted centrally to shackles. It is to be capable of adjusting shackle height to match hitch height but not interfere with hookup. To have a base plate adequate for support. Jack is to be mounted to plow frame with a telescoping pipe and hitch pin arrangement so that it can be removed after plow is hitched to truck.

**Push Frame:** No "A" frame or hydraulic lift to be furnished.

This plow is to work with standard "A" frame and hydraulic lift device now owned by the Virginia Department of Transportation.

**Skids/Casters:** No supporting device is to be furnished, such as the skid shoes with swivel adjustments or skid supports.

**Workmanship:** All workmanship shall be in accordance with good commercial practices. All cutting, drilling and machining are to be finished so that edges are smooth. Hand cutting by

torch is unacceptable. Welds shall be ground and sanded to insure satisfactory appearance of the completed unit.

**Paint:** The above unit is to be painted one coat of rust inhibitive paint prior to being painted a finished coat of lead free Virginia Highway Orange Color, Du Pont Color #LF74279AT, or equivalent.

**Advertisement:** No stickers, decals or plates displaying dealer or distributor name or logo shall be affixed to equipment. Manufacturer's plate with model and serial number is to be on the equipment.

**Warranty:** Supplier is to provide a statement of manufacturer's standard warranty of all items supplied. A minimum of 12 months from in-service date shall be provided.

**Delivery:** Equipment is to be delivered to the District Headquarter locations listed in the Request for Quote (RFQ). Unit is to be fully assembled and ready to operate before being accepted by the Department except where otherwise noted.

**Current Model:** To be standard proven model of manufacturer's latest current production with additional features outlined herein. Unit not to be materially modified or augmented.

**Bid Literature:** Descriptive literature, including verification of unit weight, will be required to substantiate the details specified in bid. Detailed drawings showing all dimensions shall be furnished with bid.

**Manuals and Parts Lists:** Successful bidder shall furnish two sets of manual of instructions and parts list in CD-ROM or microfiche for each unit delivered. If microfiche, parts lists to be 4" x 6" cards, positive or negative, 24X or 42X magnification.

\* \* \* \* \*

**OPTION:** Supply plow frame equipped with the mating half of a JRB quick coupler system as manufactured by JRB Company, Inc., Akron Ohio. For reference, quick couplers are used on nominal 2 cubic yard front end loaders similar to John Deere 544E, Volvo L60E and Komatsu WA180-1.



## VIRGINIA DEPARTMENT OF TRANSPORTATION

### **SPECIFICATIONS**

#### 11' Snowplow - 30" Tall - Power Reversing

**General:** Snowplow for 30,000 lb. GVW truck to be two-way power reversing type, 11' in length, 30" in height with variation not to exceed 2" and weigh not less than 1,800 lbs.

The plow is to be constructed for high speed operations, reversible from 42 degrees right to 42 degrees left. Plow to have sufficient vertical play on ends of plow to fit shape of pavement.

**Optional Item:** These specifications contain an option for purchase at the time units are ordered. Bidder shall quote the additional cost for the option as applicable to the base specification of the snowplow. A price is required for the option. Bidder must provide the same make and model snowplow as bid in the base specification except for changes necessary to comply with the option.

**Moldboard:** Moldboard to have cutting edge not less than 11' in length with standard punching. Moldboard overall height, including blade, to be approximately 30" with variation not to exceed 2". To be constructed of not less than 10 gauge steel. Moldboard to have not less than six vertical ribs across midsection, each ½" x 3" minimum, or equal. Moldboard ends are to be reinforced with similar ribs or flanges. Horizontal ribs are also to be included according to manufacturer's standard for plow size and type. Bottom member used as blade support to be 3" x 4" x 5/8" angle, minimum, or equal, with necessary gussets to support and reinforce moldboard and cutting edge.

The upper portion of the moldboard is to project over the cutting edge to form a continuous solid integral snow shield with upper reinforcement not less than 2-1/2" x 2-1/2" x 3/8" or 3" x 2" x 3/8" angle.

**Blade:** Plow to be equipped with sectional carbide tipped blades conforming to the attached specifications. Carbide blades are to be mounted to moldboard behind a one piece regular blade; thereby, providing double thickness blades. Blades to be punched with standard punching.

**Automatic Moldboard Release:** The moldboard is to release on shock and automatically spring back in place by use of enclosed springs. Springs to be adjustable in order to be able to regulate the trip.

Trip cylinder attachment to moldboard is to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Plow Frame:** Plow frame to be heavy duty with side members of frame not less than  $\frac{1}{2}$ " x 3" x 3" angle, box frame or channel of equal strength. Frame to be adequately braced. Shackles for attachment to push frame to have center to center measurement of 21" with 1-5/16" diameter holes for pins. Hole/pin position to be not less than 36" from plow frame pivot point. Radius angle to be fabricated of not less than 3" x 3" x  $\frac{1}{2}$ " angle, attached to at least three points to a front angle of not less than 3" x 4" x  $\frac{1}{2}$ " or 3-1/2" x 3-1/2" x  $\frac{1}{2}$ " angle. Minimum hinge point centers to be 115". The hinge pins are to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Power Reversing:** The hydraulic power reversing system may be either by cylinders or hydraulic motor.

If by cylinders, system is to consist of two - 2-1/2" single-acting cylinders. Stroke is to be adequate for 42 degrees right to 42 degrees left positions. A latching system latched mechanically and released by cylinder activation is to be included. Cylinders, brackets, etc., are to be furnished and installed complete for hydraulic connection by State.

If hydraulic motor furnished, plow reversing to be by worm gear. Plow angles shall lock automatically at any angle.

Hoses to power reversing cylinders or motor are to extend beyond shackle attachment point at least 30". Hoses to terminate with  $\frac{1}{2}$ " N.P.T. male pipe thread.

**Lift Chain:** The lift chain to be of adequate length, not less than 3/8" size. Chain to be attached to plow at each end with a chain shackle. Chain shackle is to be either loose pin type with cotter pin or bolt pin type with cotter pin securing the nut. Screw pin type is not acceptable. Cold shuts will not be acceptable. Chain to include spring links for shock absorbing.

**Moldboard Deflector:** A piece of 9/32" thick x 12" wide x moldboard length, two-ply, rubberized, smooth face conveyor belting is to be furnished as a moldboard deflector. The top edge of the moldboard is to be drilled with  $\frac{1}{4}$ " holes at each end and on 12" centers the full length for attachment. Corrosion resistant  $\frac{1}{4}$ " bolts and large O.D. (fender) washers are to fasten belting to moldboard. **NOTE: Belting and bolts may be shipped separate for installation by VDOT personnel; however, bolts must be individually packaged in quantities correct for each snowplow, and both bolts and belt are to be marked for the snowplow size.**

**Jack:** Plow is to have a screw type storage jack mounted centrally to shackles. It is to be capable of adjusting shackle height to match hitch height but not interfere with hookup. To have a base plate adequate for support. Jack is to be mounted to plow frame with a telescoping pipe and hitch pin arrangement so that it can be removed after plow is hitched to truck.

**Push Frame:** No "A" frame or hydraulic lift to be furnished.

This plow is to work with standard "A" frame and hydraulic lift device now owned by the Virginia Department of Transportation.

**Skids/Casters:** No supporting device is to be furnished, such as the skid shoes with swivel adjustments or skid supports.

**Workmanship:** All workmanship shall be in accordance with good commercial practices. All cutting, drilling and machining are to be finished so that edges are smooth. Hand cutting by torch is unacceptable. Welds shall be ground and sanded to insure satisfactory appearance of the completed unit.

**Paint:** The above unit is to be painted one coat of rust inhibitive paint prior to being painted a finished coat of lead free Virginia Highway Orange Color, Du Pont Color #LF74279AT, or equivalent.

**Advertisement:** No stickers, decals or plates displaying dealer or distributor name or logo shall be affixed to equipment. Manufacturer's plate with model and serial number is to be on the equipment.

**Warranty:** Supplier is to provide a statement of manufacturer's standard warranty of all items supplied. A minimum of 12 months from in-service date shall be provided.

**Delivery:** Equipment is to be delivered to the District Headquarters location listed in the Request for Quote (RFQ). Unit is to be fully assembled and ready to operate before being accepted by the Department except where otherwise noted.

**Current Model:** To be standard proven model of manufacturer's latest current production with additional features outlined herein. Unit not to be materially modified or augmented.

**Bid Literature:** Descriptive literature, including verification of unit weight, will be required to substantiate the details specified in bid. Detailed drawings showing all dimensions shall be furnished with bid.

**Manuals and Parts Lists:** Successful bidder shall furnish two sets of manual of instructions and parts list in CD-ROM or microfiche for each unit delivered. If microfiche, parts lists to be 4" x 6" cards, positive or negative, 24X or 42X magnification.

\* \* \* \* \*

**OPTION:** Supply plow frame equipped with the mating half of a JRB quick coupler system as manufactured by JRB Company, Inc., Akron Ohio. For reference, quick couplers are used on nominal 2 cubic yard front end loaders similar to John Deere 544E, Volvo L60E and Komatsu WA180-1.



## VIRGINIA DEPARTMENT OF TRANSPORTATION

### **SPECIFICATIONS**

#### **11' Snowplow - 36" Tall - Power Reversing**

**General:** Snowplow for 30,000 lb. GVW truck to be two-way power reversing type, 11' in length, 36" in height with variation not to exceed 2" and weigh not less than 1,800 lbs.

The plow is to be constructed for high speed operations, reversible from 42 degrees right to 42 degrees left. Plow to have sufficient vertical play on ends of plow to fit shape of pavement.

**Optional Item:** These specifications contain an option for purchase at the time units are ordered. Bidder shall quote the additional cost for the option as applicable to the base specification of the snowplow. A price is required for the option. Bidder must provide the same make and model snowplow as bid in the base specification except for changes necessary to comply with the option.

**Moldboard:** Moldboard to have cutting edge not less than 11' in length with standard punching. Moldboard overall height, including blade, to be approximately 36" with variation not to exceed 2". To be constructed of not less than 10 gauge steel. Moldboard to have not less than six vertical ribs across midsection, each ½" x 3" minimum, or equal. Moldboard ends are to be reinforced with similar ribs or flanges. Horizontal ribs are also to be included according to manufacturer's standard for plow size and type. Bottom member used as blade support to be 3" x 4" x 5/8" angle, minimum, or equal, with necessary gussets to support and reinforce moldboard and cutting edge.

The upper portion of the moldboard is to project over the cutting edge to form a continuous solid integral snow shield with upper reinforcement not less than 2-1/2" x 2-1/2" x 3/8" or 3" x 2" x 3/8" angle.

**Blade:** Plow to be equipped with sectional carbide tipped blades conforming to the attached specifications. Carbide blades are to be mounted to moldboard behind a one piece regular blade; thereby, providing double thickness blades. Blades to be punched with standard punching.

**Automatic Moldboard Release:** The moldboard is to release on shock and automatically spring back in place by use of enclosed springs. Springs to be adjustable in order to be able to regulate the trip.

Trip cylinder attachment to moldboard is to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Plow Frame:** Plow frame to be heavy duty with side members of frame not less than ½" x 3" x 3" angle, box frame or channel of equal strength. Frame to be adequately braced. Shackles for attachment to push frame to have center to center measurement of 21" with 1-5/16"

11' Snowplow - 36" Tall - Power Reversing

diameter holes for pins. Hole/pin position to be not less than 36" from plow frame pivot point. Radius angle to be fabricated of not less than 3" x 3" x 1/2" angle, attached to at least three points to a front angle of not less than 3" x 4" x 1/2" or 3-1/2" x 3-1/2" x 1/2" angle. Minimum hinge point centers to be 115". The hinge pins are to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Power Reversing:** The hydraulic power reversing system may be either by cylinders or hydraulic motor.

If by cylinders, system is to consist of two - 2-1/2" single-acting cylinders. Stroke is to be adequate for 42 degrees right to 42 degrees left positions. A latching system latched mechanically and released by cylinder activation is to be included. Cylinders, brackets, etc., are to be furnished and installed complete for hydraulic connection by State.

If hydraulic motor furnished, plow reversing to be by worm gear. Plow angles shall lock automatically at any angle.

Hoses to power reversing cylinders or motor are to extend beyond shackle attachment point at least 30". Hoses to terminate with 1/2" N.P.T. male pipe thread.

**Lift Chain:** The lift chain to be of adequate length, not less than 3/8" size. Chain to be attached to plow at each end with a chain shackle. Chain shackle is to be either loose pin type with cotter pin or bolt pin type with cotter pin securing the nut. Screw pin type is not acceptable. Cold shuts will not be acceptable. Chain to include spring links for shock absorbing.

**Moldboard Deflector:** A piece of 9/32" thick x 12" wide x moldboard length, two-ply, rubberized, smooth face conveyor belting is to be furnished as a moldboard deflector. The top edge of the moldboard is to be drilled with 1/4" holes at each end and on 12" centers the full length for attachment. Corrosion resistant 1/4" bolts and large O.D. (fender) washers are to fasten belting to moldboard. **NOTE: Belting and bolts may be shipped separate for installation by VDOT personnel; however, bolts must be individually packaged in quantities correct for each snowplow, and both bolts and belt are to be marked for the snowplow size.**

**Jack:** Plow is to have a screw type storage jack mounted centrally to shackles. It is to be capable of adjusting shackle height to match hitch height but not interfere with hookup. To have a base plate adequate for support. Jack is to be mounted to plow frame with a telescoping pipe and hitch pin arrangement so that it can be removed after plow is hitched to truck.

**Push Frame:** No "A" frame or hydraulic lift to be furnished.

This plow is to work with standard "A" frame and hydraulic lift device now owned by the Virginia Department of Transportation.

**Skids/Casters:** No supporting device is to be furnished, such as the skid shoes with swivel adjustments or skid supports.

**Workmanship:** All workmanship shall be in accordance with good commercial practices. All cutting, drilling and machining are to be finished so that edges are smooth. Hand cutting by

torch is unacceptable. Welds shall be ground and sanded to insure satisfactory appearance of the completed unit.

**Paint:** The above unit is to be painted one coat of rust inhibitive paint prior to being painted a finished coat of lead free Virginia Highway Orange Color, Du Pont Color #LF74279AT, or equivalent.

**Advertisement:** No stickers, decals or plates displaying dealer or distributor name or logo shall be affixed to equipment. Manufacturer's plate with model and serial number is to be on the equipment.

**Warranty:** Supplier is to provide a statement of manufacturer's standard warranty of all items supplied. A minimum of 12 months from in-service date shall be provided.

**Delivery:** Equipment is to be delivered to the District Headquarters location listed in the Request for Quote (RFQ). Unit is to be fully assembled and ready to operate before being accepted by the Department except where otherwise noted.

**Current Model:** To be standard proven model of manufacturer's latest current production with additional features outlined herein. Unit not to be materially modified or augmented.

**Bid Literature:** Descriptive literature, including verification of unit weight, will be required to substantiate the details specified in bid. Detailed drawings showing all dimensions shall be furnished with bid.

**Manuals and Parts Lists:** Successful bidder shall furnish two sets of manual of instructions and parts list in CD-ROM or microfiche for each unit delivered. If microfiche, parts lists to be 4" x 6" cards, positive or negative, 24X or 42X magnification.

\* \* \* \* \*

**OPTION:** Supply plow frame equipped with the mating half of a JRB quick coupler system as manufactured by JRB Company, Inc., Akron Ohio. For reference, quick couplers are used on nominal 2 cubic yard front end loaders similar to John Deere 544E, Volvo L60E and Komatsu WA180-1.



## VIRGINIA DEPARTMENT OF TRANSPORTATION

### **SPECIFICATIONS**

#### 11' Snowplow - 42" Tall - Power Reversing

**General:** Snowplow for 30,000 lb. GVW truck to be two-way power reversing type, 11' in length, 42" in height with variation not to exceed 2" and weigh not less than 1,800 lbs.

The plow is to be constructed for high speed operations, reversible from 42 degrees right to 42 degrees left. Plow to have sufficient vertical play on ends of plow to fit shape of pavement.

**Optional Item:** These specifications contain an option for purchase at the time units are ordered. Bidder shall quote the additional cost for the option as applicable to the base specification of the snowplow. A price is required for the option. Bidder must provide the same make and model snowplow as bid in the base specification except for changes necessary to comply with the option.

**Moldboard:** Moldboard to have cutting edge not less than 11' in length with standard punching. Moldboard overall height, including blade, to be approximately 42" with variation not to exceed 2". To be constructed of not less than 10 gauge steel. Moldboard to have not less than six vertical ribs across midsection, each ½" x 3" minimum, or equal. Moldboard ends are to be reinforced with similar ribs or flanges. Horizontal ribs are also to be included according to manufacturer's standard for plow size and type. Bottom member used as blade support to be 3" x 4" x 5/8" angle, minimum, or equal, with necessary gussets to support and reinforce moldboard and cutting edge.

The upper portion of the moldboard is to project over the cutting edge to form a continuous solid integral snow shield with upper reinforcement not less than 2-1/2" x 2-1/2" x 3/8" or 3" x 2" x 3/8" angle.

**Blade:** Plow to be equipped with sectional carbide tipped blades conforming to the attached specifications. Carbide blades are to be mounted to moldboard behind a one piece regular blade; thereby, providing double thickness blades. Blades to be punched with standard punching.

**Automatic Moldboard Release:** The moldboard is to release on shock and automatically spring back in place by use of enclosed springs. Springs to be adjustable in order to be able to regulate the trip.

Trip cylinder attachment to moldboard is to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Plow Frame:** Plow frame to be heavy duty with side members of frame not less than  $\frac{1}{2}$ " x 3" x 3" angle, box frame or channel of equal strength. Frame to be adequately braced. Shackles for attachment to push frame to have center to center measurement of 21" with 1-5/16" diameter holes for pins. Hole/pin position to be not less than 36" from plow frame pivot point. Radius angle to be fabricated of not less than 3" x 3" x  $\frac{1}{2}$ " angle, attached to at least three points to a front angle of not less than 3" x 4" x  $\frac{1}{2}$ " or 3-1/2" x 3-1/2" x  $\frac{1}{2}$ " angle. Minimum hinge point centers to be 115". The hinge pins are to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Power Reversing:** The hydraulic power reversing system may be either by cylinders or hydraulic motor.

If by cylinders, system is to consist of two minimum 2-1/2" single-acting cylinders. Stroke is to be adequate for 42 degrees right to 42 degrees left positions. A latching system latched mechanically and released by cylinder activation is to be included. Cylinders, brackets, etc., are to be furnished and installed complete for hydraulic connection by State.

If hydraulic motor furnished, plow reversing to be by worm gear. Plow angles shall lock automatically at any angle.

Hoses to power reversing cylinders or motor are to extend beyond shackle attachment point at least 30". Hoses to terminate with  $\frac{1}{2}$ " N.P.T. male pipe thread.

**Lift Chain:** The lift chain to be of adequate length, not less than 3/8" size. Chain to be attached to plow at each end with a chain shackle. Chain shackle is to be either loose pin type with cotter pin or bolt pin type with cotter pin securing the nut. Screw pin type is not acceptable. Cold shuts will not be acceptable. Chain to include spring links for shock absorbing.

**Moldboard Deflector:** A piece of 9/32" thick x 12" wide x moldboard length, two-ply, rubberized, smooth face conveyor belting is to be furnished as a moldboard deflector. The top edge of the moldboard is to be drilled with  $\frac{1}{4}$ " holes at each end and on 12" centers the full length for attachment. Corrosion resistant  $\frac{1}{4}$ " bolts and large O.D. (fender) washers are to fasten belting to moldboard. **NOTE: Belting and bolts may be shipped separate for installation by VDOT personnel; however, bolts must be individually packaged in quantities correct for each snowplow, and both bolts and belt are to be marked for the snowplow size.**

**Jack:** Plow is to have a screw type storage jack mounted centrally to shackles. It is to be capable of adjusting shackle height to match hitch height but not interfere with hookup. To have a base plate adequate for support. Jack is to be mounted to plow frame with a telescoping pipe and hitch pin arrangement so that it can be removed after plow is hitched to truck.

**Push Frame:** No "A" frame or hydraulic lift to be furnished.

This plow is to work with standard "A" frame and hydraulic lift device now owned by the Virginia Department of Transportation.

**Skids/Casters:** No supporting device is to be furnished, such as the skid shoes with swivel adjustments or skid supports.

**Workmanship:** All workmanship shall be in accordance with good commercial practices. All cutting, drilling and machining are to be finished so that edges are smooth. Hand cutting by torch is unacceptable. Welds shall be ground and sanded to insure satisfactory appearance of the completed unit.

**Paint:** The above unit is to be painted one coat of rust inhibitive paint prior to being painted a finished coat of lead free Virginia Highway Orange Color, Du Pont Color #LF74279AT, or equivalent.

**Advertisement:** No stickers, decals or plates displaying dealer or distributor name or logo shall be affixed to equipment. Manufacturer's plate with model and serial number is to be on the equipment.

**Warranty:** Supplier is to provide a statement of manufacturer's standard warranty of all items supplied. A minimum of 12 months from in-service date shall be provided.

**Delivery:** Equipment is to be delivered to the District Headquarters location listed in the Request for Quote (RFQ). Unit is to be fully assembled and ready to operate before being accepted by the Department except where otherwise noted.

**Current Model:** To be standard proven model of manufacturer's latest current production with additional features outlined herein. Unit not to be materially modified or augmented.

**Bid Literature:** Descriptive literature, including verification of unit weight, will be required to substantiate the details specified in bid. Detailed drawings showing all dimensions shall be furnished with bid.

**Manuals and Parts Lists:** Successful bidder shall furnish two sets of manual of instructions and parts list in CD-ROM or microfiche for each unit delivered. If microfiche, parts lists to be 4" x 6" cards, positive or negative, 24X or 42X magnification.

\* \* \* \* \*

**OPTION:** Supply plow frame equipped with the mating half of a JRB quick coupler system as manufactured by JRB Company, Inc., Akron Ohio. For reference, quick couplers are used on nominal 2 cubic yard front end loaders similar to John Deere 544E, Volvo L60E and Komatsu WA180-1.



## VIRGINIA DEPARTMENT OF TRANSPORTATION

### **SPECIFICATIONS**

#### 12' Snowplow - 36" Tall - Power Reversing

**General:** Snowplow for 37,000 to 52,000 lb. GVW truck to be two-way power reversing type, 12' in length, 36" in height with variation not to exceed 2".

The plow is to be constructed for high speed operations, reversible from 42 degrees right to 42 degrees left. Plow to have sufficient vertical play on ends of plow to fit shape of pavement.

**Optional Item:** These specifications contain an option for purchase at the time units are ordered. Bidder shall quote the additional cost for the option as applicable to the base specification of the snowplow. A price is required for the option. Bidder must provide the same make and model snowplow as bid in the base specification except for changes necessary to comply with the option.

**Moldboard:** Moldboard to have cutting edge not less than 12' in length with standard punching. Moldboard overall height, including blade, to be approximately 36" with variation not to exceed 2". To be constructed of not less than 3/16" steel. Moldboard to have not less than six vertical ribs across midsection, each 1/2" x 3" minimum, or equal. Moldboard ends are to be reinforced with similar ribs or flanges. Also, to be adequately braced horizontally by two – 1/2" x 3" minimum ribs in addition to the top and bottom reinforcing. Bottom member or blade support to be 3" x 4" x 5/8" angle, minimum, or equal, with necessary gussets to support and reinforce moldboard and cutting edge.

The upper portion of the moldboard is to project over the cutting edge to form a continuous solid integral snow shield with upper reinforcement not less than 2-1/2" x 2-1/2" x 3/8" or 3" x 2" x 3/8" angle.

**Blade:** Plow to be equipped with sectional carbide tipped blades conforming to the attached specifications. Carbide blades are to be mounted to moldboard behind a one piece regular blade; thereby, providing double thickness blades. Blades to be punched with standard punching.

**Automatic Moldboard Release:** The moldboard is to release on shock and automatically spring back in place by use of enclosed springs. Springs to be adjustable in order to be able to regulate the trip.

Trip cylinder attachment to moldboard is to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Plow Frame:** Plow frame to be heavy duty with side members of frame not less than 1/2" x 3" x 3" angle, box frame or channel of equal strength. Frame to be adequately braced. Shackles for attachment to push frame to have center to center measurement of 21" with 1-5/16"

12' Snowplow - 36" Tall - Power Reversing

diameter holes for pins. Hole/pin position to be not less than 36" from plow frame pivot point. Radius angle to be fabricated of not less than 3" x 3" x 1/2" angle, attached to at least three points to a front angle of not less than 3" x 4" x 1/2" or 3-1/2" x 3-1/2" x 1/2" angle. Minimum hinge point centers to be 115". The hinge pins are to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Power Reversing:** The hydraulic power reversing system may be either by cylinders or hydraulic motor.

If by cylinders, system is to consist of two - 2-1/2" single-acting cylinders. Stroke is to be adequate for 42 degrees right to 42 degrees left positions. A latching system latched mechanically and released by cylinder activation is to be included. Cylinders, brackets, etc., are to be furnished and installed complete for hydraulic connection by State.

If hydraulic motor furnished, plow reversing to be by worm gear. Plow angles shall lock automatically at any angle.

Hoses to power reversing cylinders or motor are to extend beyond shackle attachment point at least 30". Hoses to terminate with 1/2" N.P.T. male pipe thread.

**Lift Chain:** The lift chain to be of adequate length, not less than 3/8" size. Chain to be attached to plow at each end with a chain shackle. Chain shackle is to be either loose pin type with cotter pin or bolt pin type with cotter pin securing the nut. Screw pin type is not acceptable. Cold shuts will not be acceptable. Chain to include spring links for shock absorbing.

**Moldboard Deflector:** A piece of 9/32" thick x 12" wide x moldboard length, two-ply, rubberized, smooth face conveyor belting is to be furnished as a moldboard deflector. The top edge of the moldboard is to be drilled with 1/4" holes at each end and on 12" centers the full length for attachment. Corrosion resistant 1/4" bolts and large O.D. (fender) washers are to fasten belting to moldboard. **NOTE: Belting and bolts may be shipped separate for installation by VDOT personnel; however, bolts must be individually packaged in quantities correct for each snowplow, and both bolts and belt are to be marked for the snowplow size.**

**Jack:** Plow is to have a screw type storage jack mounted centrally to shackles. It is to be capable of adjusting shackle height to match hitch height but not interfere with hookup. To have a base plate adequate for support. Jack is to be mounted to plow frame with a telescoping pipe and hitch pin arrangement so that it can be removed after plow is hitched to truck.

**Push Frame:** No "A" frame or hydraulic lift to be furnished.

This plow is to work with standard "A" frame and hydraulic lift device now owned by the Virginia Department of Transportation.

**Skids/Casters:** No supporting device is to be furnished, such as the skid shoes with swivel adjustments or skid supports.

**Workmanship:** All workmanship shall be in accordance with good commercial practices. All cutting, drilling and machining are to be finished so that edges are smooth. Hand cutting by

torch is unacceptable. Welds shall be ground and sanded to insure satisfactory appearance of the completed unit.

**Paint:** The above unit is to be painted one coat of rust inhibitive paint prior to being painted a finished coat of lead free Virginia Highway Orange Color, Du Pont Color #LF74279AT, or equivalent.

**Advertisement:** No stickers, decals or plates displaying dealer or distributor name or logo shall be affixed to equipment. Manufacturer's plate with model and serial number is to be on the equipment.

**Warranty:** Supplier is to provide a statement of manufacturer's standard warranty of all items supplied. A minimum of 12 months from in-service date shall be provided.

**Delivery:** Equipment is to be delivered to the District Headquarters location listed in the Request for Quote (RFQ). Unit is to be fully assembled and ready to operate before being accepted by the Department except where otherwise noted.

**Current Model:** To be standard proven model of manufacturer's latest current production with additional features outlined herein. Unit is not to be materially modified or augmented.

**Bid Literature:** Descriptive literature will be required to substantiate the details specified in bid. Detailed drawings showing all dimensions shall be furnished with bid.

**Manuals and Parts Lists:** Successful bidder shall furnish two sets of manual of instructions and parts list in CD-ROM or microfiche for each unit delivered. If microfiche, parts lists to be 4" x 6" cards, positive or negative, 24X or 42X magnification.

\* \* \* \* \*

**OPTION:** Supply plow frame equipped with the mating half of a JRB quick coupler system as manufactured by JRB Company, Inc., Akron Ohio. For reference, quick couplers are used on nominal 2 cubic yard front end loaders similar to John Deere 544E, Volvo L60E and Komatsu WA180-1.



## VIRGINIA DEPARTMENT OF TRANSPORTATION

### **SPECIFICATIONS**

#### **12' Snowplow - 42" Tall - Power Reversing**

**General:** Snowplow for 37,000 to 52,000 lb. GVW truck to be two-way power reversing type, 12' in length, 42" in height with variation not to exceed 2".

The plow is to be constructed for high speed operations, reversible from 42 degrees right to 42 degrees left. Plow to have sufficient vertical play on ends of plow to fit shape of pavement.

**Optional Item:** These specifications contain an option for purchase at the time units are ordered. Bidder shall quote the additional cost for the option as applicable to the base specification of the snowplow. A price is required for the option. Bidder must provide the same make and model snowplow as bid in the base specification except for changes necessary to comply with the option.

**Moldboard:** Moldboard to have cutting edge not less than 12' in length with standard punching. Moldboard overall height, including blade, to be approximately 42" with variation not to exceed 2". To be constructed of not less than 3/16" steel. Moldboard to have not less than six vertical ribs across midsection, each 1/2" x 3" minimum, or equal. Moldboard ends are to be reinforced with similar ribs or flanges. Also, to be adequately braced horizontally by two – 1/2" x 3" minimum ribs in addition to the top and bottom reinforcing. Bottom member or blade support to be 3" x 4" x 5/8" angle, minimum, or equal, with necessary gussets to support and reinforce moldboard and cutting edge.

The upper portion of the moldboard is to project over the cutting edge to form a continuous solid integral snow shield with upper reinforcement not less than 2-1/2" x 2-1/2" x 3/8" or 3" x 2" x 3/8" angle.

**Blade:** Plow to be equipped with sectional carbide tipped blades conforming to the attached specifications. Carbide blades are to be mounted to moldboard behind a one piece regular blade; thereby, providing double thickness blades. Blades to be punched with standard punching.

**Automatic Moldboard Release:** The moldboard is to release on shock and automatically spring back in place by use of enclosed springs. Springs to be adjustable in order to be able to regulate the trip.

Trip cylinder attachment to moldboard is to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Plow Frame:** Plow frame to be heavy duty with side members of frame not less than 1/2" x 3" x 3" angle, box frame or channel of equal strength. Frame to be adequately braced. Shackles for attachment to push frame to have center to center measurement of 21" with 1-5/16"

12' Snowplow - 42" Tall - Power Reversing

diameter holes for pins. Hole/pin position to be not less than 36" from plow frame pivot point. Radius angle to be fabricated of not less than 3" x 3" x 1/2" angle, attached to at least three points to a front angle of not less than 3" x 4" x 1/2" or 3-1/2" x 3-1/2" x 1/2" angle. Minimum hinge point centers to be 115". The hinge pins are to be either of the following methods; a bolt drilled and having a cotter pin to secure the nut, or a steel floating clevis pin with a flat washer and cotter pin securing it.

**Power Reversing:** The hydraulic power reversing system may be either by cylinders or hydraulic motor.

If by cylinders, system is to consist of two - 2-1/2" single-acting cylinders. Stroke is to be adequate for 42 degrees right to 42 degrees left positions. A latching system latched mechanically and released by cylinder activation is to be included. Cylinders, brackets, etc., are to be furnished and installed complete for hydraulic connection by State.

If hydraulic motor furnished, plow reversing to be by worm gear. Plow angles shall lock automatically at any angle.

Hoses to power reversing cylinders or motor are to extend beyond shackle attachment point at least 30". Hoses to terminate with 1/2" N.P.T. male pipe thread.

**Lift Chain:** The lift chain to be of adequate length, not less than 3/8" size. Chain to be attached to plow at each end with a chain shackle. Chain shackle is to be either loose pin type with cotter pin or bolt pin type with cotter pin securing the nut. Screw pin type is not acceptable. Cold shuts will not be acceptable. Chain to include spring links for shock absorbing.

**Moldboard Deflector:** A piece of 9/32" thick x 12" wide x moldboard length, two-ply, rubberized, smooth face conveyor belting is to be furnished as a moldboard deflector. The top edge of the moldboard is to be drilled with 1/4" holes at each end and on 12" centers the full length for attachment. Corrosion resistant 1/4" bolts and large O.D. (fender) washers are to fasten belting to moldboard. **NOTE: Belting and bolts may be shipped separate for installation by VDOT personnel; however, bolts must be individually packaged in quantities correct for each snowplow, and both bolts and belt are to be marked for the snowplow size.**

**Jack:** Plow is to have a screw type storage jack mounted centrally to shackles. It is to be capable of adjusting shackle height to match hitch height but not interfere with hookup. To have a base plate adequate for support. Jack is to be mounted to plow frame with a telescoping pipe and hitch pin arrangement so that it can be removed after plow is hitched to truck.

**Push Frame:** No "A" frame or hydraulic lift to be furnished.

This plow is to work with standard "A" frame and hydraulic lift device now owned by the Virginia Department of Transportation.

**Skids/Casters:** No supporting device is to be furnished, such as the skid shoes with swivel adjustments or skid supports.

**Workmanship:** All workmanship shall be in accordance with good commercial practices. All cutting, drilling and machining are to be finished so that edges are smooth. Hand cutting by

torch is unacceptable. Welds shall be ground and sanded to insure satisfactory appearance of the completed unit.

**Paint:** The above unit is to be painted one coat of rust inhibitive paint prior to being painted a finished coat of lead free Virginia Highway Orange Color, Du Pont Color #LF74279AT, or equivalent.

**Advertisement:** No stickers, decals or plates displaying dealer or distributor name or logo shall be affixed to equipment. Manufacturer's plate with model and serial number is to be on the equipment.

**Warranty:** Supplier is to provide a statement of manufacturer's standard warranty of all items supplied. A minimum of 12 months from in-service date shall be provided.

**Delivery:** Equipment is to be delivered to the District Headquarters location listed in the Request for Quote. Unit is to be fully assembled and ready to operate before being accepted by the Department except where otherwise noted.

**Current Model:** To be standard proven model of manufacturer's latest current production with additional features outlined herein. Unit not to be materially modified or augmented.

**Bid Literature:** Descriptive literature will be required to substantiate the details specified in bid. Detailed drawings showing all dimensions shall be furnished with bid.

**Manuals and Parts Lists:** Successful bidder shall furnish two sets of manual of instructions and parts list in CD-ROM or microfiche for each unit delivered. If microfiche, parts lists to be 4" x 6" cards, positive or negative, 24X or 42X magnification.

\* \* \* \* \*

**OPTION:** Supply plow frame equipped with the mating half of a JRB quick coupler system as manufactured by JRB Company, Inc., Akron Ohio. For reference, quick couplers are used on nominal 2 cubic yard front end loaders similar to John Deere 544E, Volvo L60E and Komatsu WA180-1.